

REMARKS

Claims 1-5, 7-10, 12-14, 19, 22, 28, 32, and 34-37 are pending in the application. Claims 1, 14, and 35 are independent. By the foregoing Amendment, the Specification has been amended, claims 1, 5, 10, 14, 19, 22, 28, 34, and 35 have been amended and claims 6, 11, 15-18, 20-21, 23-27, 29-31, and 33 have been canceled. These changes are believed to introduce no new matter and their entry is respectfully requested.

Rejection of Claims 22-24 Under 35 U.S.C. §112, Second Paragraph

In paragraph 2, the Examiner rejected claims 22-24 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. By the foregoing Amendment, Applicants have amended claim 22 to accommodate the Examiner and claims 23-24 have been canceled rendering the rejection to them moot. Accordingly, Applicants respectfully request that the Examiner reconsider and remove the objection to claims 22-24.

Rejection of Claims 1, 3-5, 7, 9, 13-14, 18, 26, 28, 30-31, and 35 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 1, 3-5, 7, 9, 13-14, 18, 26, 28, 30-31, and 35 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,295,308 B1 to Zah et al. (hereinafter “Zah”) in view of U.S. Patent No. 6,137,814 to Brosson et al. (hereinafter “Brosson”). Applicants respectfully traverse the rejection.

To establish a *prima facie* case of obviousness, an Examiner must show that there is some suggestion or motivation to modify a reference to arrive at the claimed invention, that there is some expectation of success, and that the cited reference teaches each and every element of the claimed invention. (MPEP §2143.) *citing In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. “To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the

artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Representative claim 1 recites in pertinent part “a partially-reflective mirror disposed *between* the phase control section and the modulator section, the partially-reflective mirror having *a reflectivity of approximately 2-10 percent*” (emphasis added). Support for these changes according to at least one embodiment can be found in Applicants’ Specification at paragraph [0055].

In the Office Action, the Examiner states that *Zah* discloses an apparatus comprising an integrated structure having a front facet and rear facets having a waveguide passing therethrough because a waveguide is an inherent feature of such semiconductor lasers for guiding light through the structure. The Examiner states further that the structure has a gain section to emit a plurality of photons in response to a first electrical input and having a facet defining the rear facet of the integrated structure, a modulator section disposed to modulate the optical path length of a portion of the waveguide passing through the modulator in response to an electrical signal, and having a facet that defines the front facet of the structure, a partially reflective mirror disposed between the gain section and the modulator section. The Examiner concedes that *Zah* fails to disclose a phase control section that modulates an optical path length of the waveguide passing therethrough in response to a second electrical signal as claimed by Applicants, but cites *Brosson* for this teaching. Specifically, the Examiner states that *Brosson* discloses that in similar lasers it is known to include phase control portion and to apply an electrical signal to the phase control section. The Examiner determines that it would have been obvious to include the phase control section of *Brosson* in *Zah* to correct for or eliminate adiabatic frequency variations. Applicants respectfully disagree.

Applicants respectfully submit that the Examiner has failed to make out a *prima facie* case of obviousness of claim 1 over *Zah* in view of *Brosson* for at least two reasons. First, Applicants respectfully submit that the Examiner has not provided a suggestion of the desirability of where to place the phase control section of *Brosson* in *Zah*. Applicants respectfully submit that the Examiner has failed to present a convincing line of reasoning as to why the artisan would place the phase control section of *Brosson* *between the gain section and mirror* of *Zah*, as

recited in claim 1, rather than between the mirror and modulator in *Zah*. MPEP §2144.04 VI.C. provides that the mere fact that a person of ordinary skill in the art could rearrange the parts of the reference device to meet the terms of the claims is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for a person of ordinary skill in the art, without the benefit of Applicants' Specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). Applicants respectfully submit that the Examiner has provided no such motivation or suggestion. As such, Applicants respectfully submit that claims 1, 14, and 35 are patentable over *Zah* in view of *Brosson*.

Secondly, *Zah* in view of *Brosson* fails to teach or fairly suggest a partially-reflective mirror having a reflectivity of approximately 2-10 percent as recited in claims 1, 14, and 35. Applicants respectfully submit that the reflector 40 in *Zah* is not concerned with low reflectivity. Instead, it is designed as a broadband reflector. *Brosson* fails to teach or fairly suggest any mirror at all, let alone one having a reflectivity of approximately 2-10 percent. Thus, the combination of *Zah* in view of *Brosson* fails to teach or fairly suggest each and every element of the claimed invention.

Claims 3-5, 7, 9, 13, 28, and 31 properly depend from claim 1, which Applicants respectfully submit is patentable. Claims 18 and 25 properly depend from claim 14, which Applicants respectfully submit is patentable. Claims 26 and 30 have been canceled rendering the rejection to them moot. Accordingly, Applicants respectfully submit that claims 3-5, 7, 9, 13, 28, and 31 are patentable for at least the same reasons that claim 1 is patentable that claims 18 and 25 are patentable for at least the same reasons that claim 14 is patentable. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988))). Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 1, 3-5, 7, 9, 13-14, 18, 26, 28, 30-31, and 35.

Rejection of Claims 2, 6, 15, and 25 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 2, 6, 15, and 25 under 35 U.S.C. §103(a) as being unpatentable over *Zah* in view of *Brosson* in further view of U.S. Patent

Application No. 2002/0131466 A1 to Salavatore et al. (hereinafter “*Salvatore*”). Applicants respectfully traverse the rejection.

Claims 2, 6, and 25 properly depend from claim 1, which Applicants respectfully submit is patentable. Accordingly, Applicants respectfully submit that claims 2, 6, and 25 are patentable for at least the same reasons that claim 1 is patentable. Claim 15 has been canceled rendering the rejection to it moot. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.1988))). Accordingly, Applicants respectfully request that the Examiner reconsider and remove the rejection to claims 2, 6, and 15.

Rejection of Claims 8, 17, and 29 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 8, 17, and 29 under 35 U.S.C. §103(a) as being unpatentable over *Zah* in view of *Brosson* in further view of U.S. Patent No. 6,822,981 B2 to Jacquet et al. (hereinafter “*Jacquet*”). Applicants respectfully traverse the rejection.

Claims 8 and 17 properly depend from claims 1 and 14, respectively, and which Applicants respectfully submit are patentable. Accordingly, Applicants respectfully submit that claims 8 and 17 are patentable for at least the same reasons that claims 1 and 14, respectively, are patentable. Claim 29 has been canceled rendering the rejection to it moot. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.1988))). Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 8, 17, and 29.

Rejection of Claims 10-12 and 19-21 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 10-12 and 19-21 under 35 U.S.C. §103(a) as being unpatentable over *Zah* in view of *Brosson* in further view admitted prior art. Applicants respectfully traverse the rejection.

Claims 10-12 properly depend from claim 1, which Applicants respectfully submit is patentable. Accordingly, Applicants respectfully submit that claims 10-12 are patentable for at least the same reasons that claim 1 is patentable. Claims 19 and 21 properly depend from claim

14, which Applicants respectfully submit is patentable. Accordingly, Applicants respectfully submit that claims 19 and 21 are patentable for at least the same reasons that claim 14 is patentable. Claim 20 has been canceled rendering the rejection to it moot. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.1988))). Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 10-12 and 19-21.

Rejection of Claims 27, 32-34, and 36-37 Under 35 U.S.C. §103(a)

In the Office Action, the Examiner rejected claims 8, 17, and 29 under 35 U.S.C. §103(a) as being unpatentable over *Zah* in view of *Brosson* in further view of U.S. Patent Application No. 2002/0172239 A1 to McDonald et al. (hereinafter "*McDonald*"). Applicants respectfully traverse the rejection.

Claim 27 has been canceled rendering the rejection to it moot. Claims 32-34 properly depend from claim 1, which Applicants respectfully submit is patentable. Claims 36-37 properly depend from claim 35, which Applicants respectfully submit is patentable. Accordingly, Applicant respectfully submits that claims 32-34 are patentable for at least the same reasons that claim 26 is patentable and claims 36-37 are patentable for at least the same reasons that claim 35 is patentable. (MPEP §2143.03 (citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988))). Accordingly, Applicant respectfully requests that the Examiner reconsider and remove the rejection to claims 27, 32-34, and 36-37.

CONCLUSION

Applicant submits that all grounds for rejection have been properly traversed, accommodated, or rendered moot and that the application is now in condition for allowance. The Examiner is invited to telephone the undersigned representative if the Examiner believes that an interview might be useful for any reason.

Respectfully submitted,

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

Date: 1/25/2007

Jan Little-Washington
Jan Little-Washington
Reg. No. 41,181
(206) 292-8600

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Date of Deposit

Yuko Tanaka

Name of Person Mailing Correspondence

Y. Tanaka

Signature

Jan. 25, 2007

Date